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## Sleeping Bag

## Description

This invention concerns a sleeping bag constructed of side by side chambers formed by dividing walls and filled with stuffing material, inner and outer shell that cover the chambers, and a zipper.

Sleeping bags designed for various purposes have been available in many different styles for a long time. When sleeping outdoors (without a tent), it is desirable to have protection from dampness and wetness caused rain, dew, or snow. For this reason, sleeping bags are available with waterproof outer shells. One example in current use is Super Dryloft from Gore, a membrane made of stretched Gore-Tex that is laminated onto nylon. Stretching the membrane increases the membrane's water vapor-permeability. However, it is moisture resistant and completely windproof. Micro-fiber fabrics, such as Pertex nylon, are used for less demanding requirements. Although these sleeping bags are essentially waterproof, they exhibit weak spots, especially in places where there are external seams. In order to address this issue, it has been proposed to equip sleeping bags with separate outer coverings, like that available under the trade name C-tex, under which is located a cover made of vapor-permeable triple laminate. However, this necessitates carrying and packing an additional item. A sleeping bag of this type with an outer shell made of a waterproof nylon material is known, for example, from US-A-39 88 791.

The purpose of this invention is to create a waterproof sleeping bag whose sealing characteristics are improved and with which it is not necessary to carry additional items.



This purpose is fulfilled with the features described in Claim 1. The additional claims detail the invention's advantageous characteristics and further developments.

According to the invention, a sleeping bag consists of side by side chambers formed by  
5 dividing walls and filled with stuffing material, inner and outer shells that cover the  
chambers, and a zipper. The sleeping bag is characterized by the outer shell, which is  
made of a waterproof material; the outer shell and the dividing walls or the outer shell  
and the attachment strips (bonded to the dividing walls), which consist of a weldable or  
glueable material; and the dividing walls, which are welded or glued at their ends or  
10 through the use of attachment strips to the inside of the outer shell. If dividing walls are  
used that are not weldable or glueable, these will be sewn to the attachment strips. It is  
preferable for the sleeping bag to have a waterproof zipper or a zipper that is covered  
with a waterproof outer flap, whereby it is preferable for the outer flap to be welded or  
bonded to the outer shell.

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It is preferable for the outer shell and the attachment strips to be constructed from a  
thermoplastic material like PVC or polyurethane or from a fabric that is coated with these  
materials. For welding, any material may be used that can be welded using common  
methods (high frequency welding, hot air welding, hot sealing with the use of welding  
20 aids, heated wedge pressure welding, heat-pulse welding, radiant heat welding).

In order to maintain convection and promote evaporation, the dividing walls should be  
constructed of materials like tricot or mosquito netting fabric. The inner shell will be  
constructed preferably in the common manner from cotton, nylon fabric,



or polyester fabric, in other words, a breathable textile and the dividing walls are sewn up with this material at their other, inner ends. The filling will be down or synthetic fibers as is common.

- 5 The following will more closely describe an example of the invention with the help of a drawing.

Figure 1 depicts a schematic section through a sleeping bag 1 with an outer shell 2 and an inner shell 3. Chambers 4 are arranged between the outer shell 2 and the inner shell 3.

- 10 The chambers are divided by the dividing walls 5. The chambers 4 are filled with down or synthetic fibers. Inside, the dividing walls 5 are sewn to the inner shell 3. Refer to the enlarged detail A to view the connection to the outer shell 2. The dividing wall 5, which may consist of mosquito netting, is sewn to a weldable attachment strip 6 via a seam 8. The attachment strip 6 rests on the inside end of the outer shell 2, which is also
- 15 constructed of a weldable material. The attachment strip and outer shell are joined by a band of weldable material like polyurethane, which overlaps the end of the attachment strip 6 and is welded in place. This construction produces an external shell 2 that is completely unbroken externally, has no seams, no abrasion-prone glue spots, or externally-located welding bands. In contrast to supplemental outer materials or separate
- 20 covers, the design produces no noticeable increase in weight. If side seams or similar are present, these can be covered in the normal way with welded bands if it is not possible to avoid them with overlapping welds.